

Sales and Investment Trends of New Manufacturing Firms

Total sales of all manufacturing concerns starting productive operations in the 1946-48 period amounted to almost \$15 billion during these years, or an average of \$5 billion per year. By the end of 1948, these firms which survived accounted for 4 percent of the sales, and almost 30 percent of the number, of all manufacturing companies.

It has been reported previously that the initial investment in new plant and equipment and in inventories by new manufacturers in the 1946-48 period amounted to about \$800 million and \$300 million, respectively. Allowing for the subsequent outlays of these firms during this period, their total investment in new plant and equipment amounted to over \$1.1 billion, or about 40 percent more than their initial fixed capital outlays. The subsequent growth of inventories among surviving new firms, however, was fully offset by the disinvestment of those new firms which suspended operations during the 1946-48 period.

THIS is the fourth in a series of articles analyzing the sources and uses of initial investment funds for new firms in the postwar period and their operating experience in their early formative years. Previous articles in the *SURVEY OF CURRENT BUSINESS*, have described the sales and inventory trends of new retail and wholesale trade firms and the initial capital requirements of these and new manufacturing firms.¹

The present article describes the sales growth and investment trends of manufacturing firms starting operations in the 3 years 1946 through 1948 and compares their experience with that of existing manufacturers and new trade concerns. The universe estimates presented below cover all manufacturing concerns entering the business population during this period although the sample results apply only to surviving new firms with one or more paid employees.²

Aggregate sales of new manufacturers

Based on the survey results and making due allowance for mortality among new firms, it is estimated that all entrants into the manufacturing field in 1946 accounted for slightly over 1 percent of all manufacturers' sales during that year. As a result of the declining business birth rate and increasing

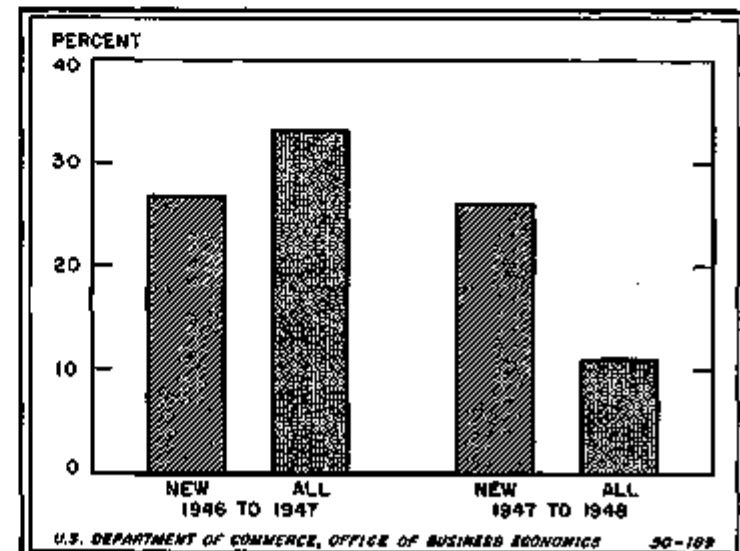
discontinuance rate in the following 2 years, the sales contribution of new concerns in their first calendar year of operations fell to well under 1 percent in 1947 and 1948. It should be noted that since new firms come into existence throughout the calendar year, their annual rates of sales at the end of each year were approximately double the indicated percentages.

There are several basic differences between the average new and established manufacturing firm that should be considered in any evaluation of their respective operating experiences. The major difference arises out of the typically small investment of new firms, so that even the largest new firms in the 1946-48 period would be considered small by most standards. Due to the high investment requirements, newly organized concerns do not generally enter in such fields as primary metals, rubber, oil refining, tobacco, heavy machinery, and transportation equipment. While new firms are found in every broad manufacturing group, they are largely concentrated in the lumber and apparel fields, and to a lesser extent, in small metal-working and printing shops.

While new manufacturing firms do not loom very large in the over-all picture, their sales are quite significant in those areas open to smaller-scale operations. They were most important in the lumber industry, where firms newly organized in 1946 accounted for about 10 percent of the industry's 1946 sales. The corresponding percentage in apparel was somewhat over 3 percent.

As can be seen in chart 1 and table 1, sales of all manufac-

Chart 1.—New and All Manufacturing Firms: Percentage Increase in Sales, 1946 to 1947 and 1947 to 1948¹



¹ New firms are those which started operations in 1946 and 1947 and exclude firms without employees; percentages for new firms are based on medians weighted by sales in each industry. Source of data: U. S. Department of Commerce, Office of Business Economics.

NOTE.—MR. BRIDGE AND MISS HOLMES ARE MEMBERS OF THE BUSINESS STRUCTURE DIVISION, OFFICE OF BUSINESS ECONOMICS.

² "Sales and Inventory Trends of New Trade Firms," April 1948; "Capital Requirements of New Trade Firms," December 1948; and "Capital Requirements of New Manufacturing Firms," April 1949.

³ A detailed description of the sampling and estimating procedures appeared in the technical notes to the initial capital requirements study in the April 1950 *SURVEY OF CURRENT BUSINESS*.

turing firms increased more relatively than did those of new firms in the 1946-47 period. A special factor in this period was the reconversion of a large number of existing firms to peacetime production in 1946. This factor, superimposed on the other economic characteristics of the period, was reflected in very sizable sales and inventory increases from 1946 to 1947 in manufacturing as a whole.

Table 1.—New and All Manufacturing Firms: Percentage Change in Sales and Inventories, 1946 to 1947 and 1947 to 1948, by Industry¹

Industry	Sales				Inventories			
	1946 to 1947		1947 to 1948		1946 to 1947		1947 to 1948	
	New firms	All firms	New firms	All firms	New firms	All firms	New firms	All firms
All industries	27	32	26	11	8	28	8	14
Food and kindred products	17	34	33	3	0	19	0	5
Textile-mill products	35	20	12	11	25	16	-16	10
Apparel and related products	16	6	17	11	20	8	8	10
Lumber and timber base products	26	68	23	18	20	32	-43	10
Furniture and finished lumber products	28	30	30	7	0	34	18	17
Stone, clay, and glass products	43	34	25	13	30	27	11	10
Metal and metal fabricating ²	44	43	35	16	12	18	33	17
Machinery	30	41	33	11	10	23	33	11
Transportation equipment	56	60	18	23	-8	21	0	11
All other	12	28	22	12	7	21	0	17

¹ New firms are those which started operations in 1946 and 1947; percentages for new firms are medians and exclude firms without employees. The all-industry totals for new firms are based on medians weighted by total 1946 sales in each industry. Changes in inventories are based on end-of-year data.

² Excludes machinery and transportation equipment.

Source: U. S. Department of Commerce, Office of Business Economics.

While data are not available on the sales of existing firms of size directly comparable with new firms, there is no significant difference during this period in the relative sales increases of new firms and existing firms of medium and small size.² In view of the direct relationship among established firms between asset-size and the increase in sales from 1946 to 1947, it is highly likely that new manufacturing firms grew relatively faster from 1946 to 1947 than did established firms of comparable size. This conclusion is further supported by the considerably more rapid sales growth of new manufacturers (relative to all manufactures) from 1947 to 1948 and by the more favorable sales experiences of new as against established wholesale and retail trade firms in the 1945-47 period. The more rapid growth of new firms reflects their greater initial unused resources and untapped market relative to established manufacturers.

When examined by year of entry (table 2), it is found that sales growth is most marked in the first full year of operations. From 1947 to 1948, sales of manufacturing firms starting operations in 1947 increased by 36 percent, those of 1946 entrants by 24 percent, and all manufacturing firms by 11 percent.³ The more favorable showing of the 1947 entrants was evident in every industry except transportation equipment.

The 3-year period covered by this study does not permit the estimation of a complete or definitive growth curve of newly established organizations. The results indicate, however, that surviving new concerns in their first few years of operations grew at a considerably faster rate than did already established companies during the same period—although the differential in growth was rapidly disappearing by the end of the third year.

² In the available data, the asset-size classification of these medium and small companies varied according to industry. In general, they had assets under \$10 million. The average initial investment of new manufacturing firms in the 1946-48 period was \$12,000, SURVEY OF CURRENT BUSINESS, April 1949.

³ It may be noted that, as a result of the lag of sales behind production, the first year's sales growth is somewhat larger than it would otherwise be.

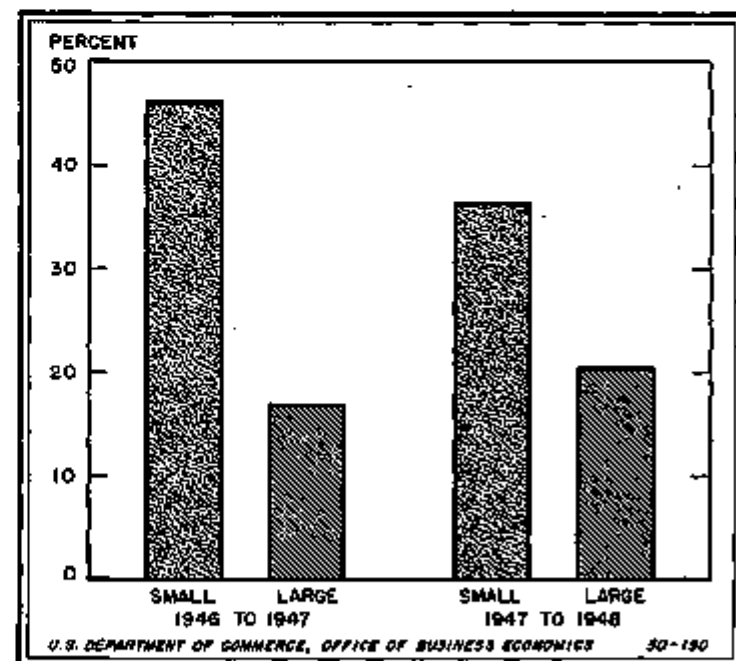
The gradual elimination of war-deferred backlog demand and the slowing down of inflationary pressures had a retarding effect on the sales of both new and all firms during the 1947-48 period. Among new firms, however, there was a less noticeable slackening in total sales in 1948.

Sales growth and firm size

It was indicated above that sales increases for all manufacturing firms in both 1947 and 1948 were larger among large concerns than among the smaller establishments. The less favorable experience of the smaller established firms in 1948 was to some extent due to their lesser concentration in the heavy-goods fields and to the differential cyclical effects as aggregate output approaches its peak.

Among new manufacturing firms, however, sales gains were inversely related to the sales-size of firm in both periods. The larger proportionate sales increase of the smaller new concerns may reflect a greater sales potential relative to their initial scale of operations. Except for the poorer showing of the smaller lumber concerns in 1947, these size relationships were evident in every major industry in both years (chart 2 and table 3). When the sample data are examined in terms of investment-size and legal status (see table 4), the firms with the smaller initial investment and the noncorporate group are generally found to have the greatest sales growth. The latter result primarily reflects the lower average size of unincorporated firms.

Chart 2.—New Manufacturing Firms: Percentage Increase in Sales, 1946 to 1947 and 1947 to 1948, by Sales Size¹



¹ New firms are those which started operations in 1946 and 1947 and exclude firms without employees; percentages are based on medians weighted by sales in each industry. Small firms are those with sales under \$100,000 and large firms are those with sales \$100,000 and over, classified according to sales in the earlier year of comparison.

Source of data: U. S. Department of Commerce, Office of Business Economics.

Inventory trends

The inventory holdings of new manufacturing firms did not rise relatively as much as did those of all firms between either the end of 1946 and 1947 or the end of 1947 and 1948. It is difficult to pin down the factors that result in these trends—although there are several possible answers. Among

these may be a conservative buying policy dictated by the high price level and the lesser ability of new firms to withstand large inventory losses, while the availability of funds to finance sizable inventory accumulation may also have been a limiting factor.

As a result of these divergent trends in sales and inventories among new firms, their stock-sales ratios declined steadily from 1946 to 1948 (see table 5). A similar decline occurred among all manufacturing concerns from 1946 to 1947, but was reversed during 1948 with the considerable easing in the supply situation. However, as can be seen in chart 3, the stock-sales ratio of all small existing companies declined from 1947 to 1948—a behavior more characteristic of new firms than of large established concerns.

Table 2.—New Manufacturing Firms: Percentage Change in Sales, Inventories, and Plant and Equipment Account, 1947 to 1948, by Industry and Year of Entry¹

Industry	Sales		Inventories		Plant and equipment account	
	Year of entry		Year of entry		Year of entry	
	1946	1947	1946	1947	1946	1947
All industries.....	24	26	11	9	12	15
Food and kindred products.....	20	44	0	5	5	8
Textile-mill products.....	12	14	-15	-47	13	12
Apparel and related products.....	14	28	17	0	12	12
Lumber and timber basic products.....	10	70	28	63	16	22
Furniture and finished lumber products.....	29	30	18	12	5	27
Metals and metal fabricating ²	38	45	55	12	24	15
Machinery.....	37	49	33	48	15	34
Transportation equipment.....	22	-15	0	50	8	32
All other.....	22	24	0	0	11	11

¹ Data are medians and exclude firms without employees. The all-industry totals are based on medians weighted by total 1946 sales in each industry. Changes in inventories and plant and equipment account are based on end-of-year data.

² Excludes machinery and transportation equipment.

Source: U. S. Department of Commerce, Office of Business Economics.

In each year, the stock-sales ratios of new firms were considerably lower than those of all manufacturing companies—with the latter maintaining more than half again as much inventory relative to sales as did the former group. This differential tends to disappear if comparison is made with small established firms. In 1947, for example, the inventories of all manufacturing firms were equal to 1.8 months of sales while

Table 3.—New and Established Manufacturing Firms: Percentage Change in Sales and Inventories, 1946 to 1947 and 1947 to 1948, by Industry and Size of Firm¹

Industry	Sales								Inventories							
	1946 to 1947								1947 to 1948							
	New firms				Established firms				New firms				Established firms			
	Small	Large	Medium and small	Large	Small	Large	Medium and small	Large	Small	Large	Medium and small	Large	Small	Large	Medium and small	Large
All industries.....	49	17	28	38	38	26	9	16	4	64	29	19	8	14	10	27
Food and kindred products.....	48	9	33	34	64	16	5	1	0	20	21	15	0	0	1	11
Textile-mill products.....	70	38	14	22	29	2	8	16	0	25	14	15	0	-20	17	15
Apparel and related products.....	21	3	6	10	23	12	14	13	0	25	5	31	0	12	16	23
Lumber and timber basic products ²	7	63	58	68	33	14	21	21	0	38	38	38	0	00	45	46
Furniture and finished lumber products.....	39	0	26	35	29	28	5	14	0	20	30	30	0	23	22	11
Metals and metal fabricating ²	73	30	31	42	45	26	31	24	0	12	19	14	33	54	16	17
Machinery.....	46	2	37	40	34	33	7	17	10	-0	18	33	33	22	10	12
Transportation equipment.....	(9)	(1)	54	58	28	15	25	21	(9)	(1)	24	10	0	13	10	13
All other.....	30	10	21	30	24	23	6	17	0	20	22	10	0	5	7	23

¹ New firms are those which started operations in 1946 and 1947. Data for new firms are medians and exclude firms without employees. The all-industry totals for new firms are based on medians weighted by total 1946 sales in each industry. Small new firms are those with sales under \$100,000 classified according to sales in the earlier year of comparison. The asset-size classification of established firms varies according to industry. In general, the medium and small companies are those with assets under \$10 million. Changes in inventories are based on end-of-year data.

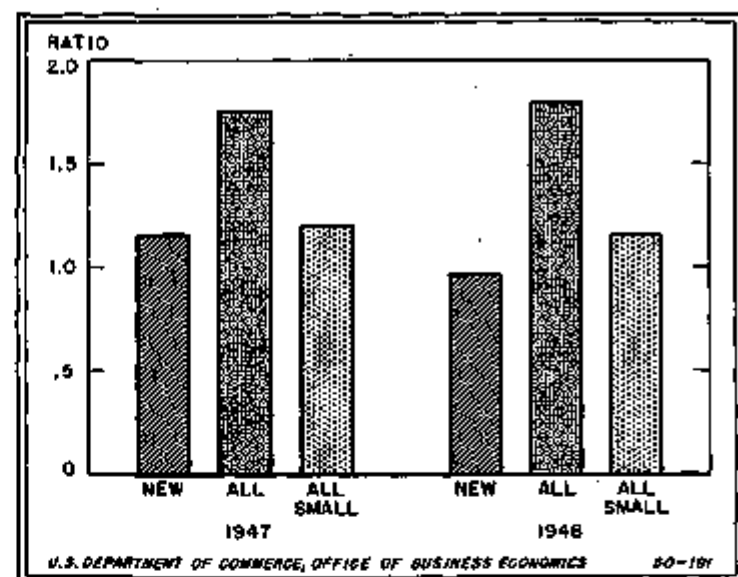
² Percentages for established firms are for whole industry as data by size are not available.

³ Excludes machinery and transportation equipment.

⁴ Insufficient sample.

Source: U. S. Department of Commerce, Office of Business Economics.

Chart 3.—New, All, and All Small Manufacturing Firms: Stock-Sales Ratios, 1947 and 1948¹



¹ New firms are those which started operations in the 1946-48 period and exclude firms without employees; ratios are based on medians weighted by sales in each industry. Small firms are all corporations with assets of less than \$250,000. Ratios are derived from year-end inventories and average monthly sales.

Source: U. S. Department of Commerce, Office of Business Economics, Federal Trade Commission, and Securities and Exchange Commission.

manufacturing corporations with assets of less than \$250,000 held inventories at 1.2 months. The stock-sales ratios of both new firms and all manufacturing partnerships (partnership data are not available) in the same period were just about equal to one month's sales.

Inventory turnover by size of firm

When new firms are classified by investment-size, it is again found that the stock-sales ratio varies directly with size. However, when classified by sales-size this is no longer true—and the smaller new companies are found to hold a greater volume of inventories relative to sales than do the larger new concerns (see table 6). While data to test this finding among existing manufacturers are not available, it was also noted among both new and existing trade firms.

The opposite results yielded for the ratio of inventories to sales by the sales-size and investment or asset-size classifications are due to the positive correlation of sales-size with the denominator in the former case and of investment-size with the numerator in the latter. When the stock-sales ratios are classified by employee-size—a variable which does not enter into the ratios—it is found that there is some tendency for the stock-sales ratios among new manufacturers to be directly related to size.

Plant and Equipment Growth

The gross plant and equipment account (i. e., before depreciation allowances)¹ of concerns starting production in 1946 increased almost one-fourth from year-end 1946 to 1947 and about one-eighth in the following year. While similar data are not available for all manufacturing companies, the net property accounts of all manufacturing corporations according to data from the Federal Trade Commission and the Securities and Exchange Commission increased about 19 and 20 percent, respectively, during these periods. It should be noted, however, that these figures overstate the growth of established firms due to: (1) the considerably higher prices paid for replacement and expansion of facilities in the postwar period relative to the average of prices at which existing facilities had been purchased; and (2) the comparison of current additions with greatly depreciated book values. Utilizing Bureau of Internal Revenue data, and adding back all reserves for depreciation—a not entirely valid procedure—it is found that the gross capital assets (excluding land) of all manufacturing corporations increased 13 percent from 1946 to 1947 as compared to a 21 percent increase in net capital assets.² While this information is not yet available for 1948, external data indicate that gross capital assets increased slightly over 12 percent during this year.

Table 4.—New Manufacturing Firms: Percentage Change in Sales and Plant and Equipment Account, 1947 to 1948, by Investment Size and Legal Status¹

Item	Sales	Plant and equipment account
Investment size:		
Under \$20,000.....	34	16
\$20,000 and over.....	26	12
Legal status:		
Noncorporate.....	33	14
Corporate.....	25	12

¹ New firms are those which started operations in 1946 and 1947 and exclude firms without employees; percentages are based on medians weighted by total 1948 sales in each industry. Changes in plant and equipment account are based on end-of-year data.

Source: U. S. Department of Commerce, Office of Business Economics.

Thus, the gross plant and equipment account of new concerns increased considerably more percentagewise than that of all manufacturers in 1947—and increased about the same amount in 1948. When comparison is made with changes in the net property account of all manufacturing corporations with assets of less than \$250,000, the larger growth in capital assets of new firms becomes more apparent. Relative to their respective holdings at the beginning of the period, additions of capital goods by new companies were three times the acquisitions of small established corporations in 1947 and twice such acquisitions in 1948.

In terms of the availability of funds for financing the subsequent investment of new firms, this result seems at

¹ This differs from the usual gross property account in that it includes plant and equipment items only and excludes land, depletable resources and intangible fixed assets.
² As noted above, the increase in net capital assets during 1947 of all manufacturing corporations in the slightly different FTC-SEC universe was 19 percent.

Table 5.—New and All Manufacturing Firms: Stock-Sales Ratios, 1946, 1947, and 1948, by Industry¹

Industry	1946		1947		1948	
	New firms	All firms	New firms	All firms	New firms	All firms
All industries.....	1.21	1.94	1.50	1.75	0.97	1.84
Food and kindred products.....	.06	1.21	1.33	1.14	.80	1.20
Textile-mill products.....	1.42	1.80	1.62	1.93	.91	2.32
Apparel and related products.....	.02	1.31	.08	1.33	.58	1.43
Lumber and timber basic products.....	1.00	1.42	1.13	1.21	1.01	1.49
Furniture and finished lumber products.....	1.13	1.75	1.22	1.78	1.10	1.93
Stone, clay, and glass products.....	1.14	1.61	.82	1.54	.97	1.62
Metals and metal fabricating.....	.74	2.10	.85	1.73	.90	1.74
Machinery.....	1.20	2.17	1.20	2.20	1.00	2.70
Transportation equipment.....	(?)	2.80	1.82	2.18	1.20	1.68
All other.....	1.50	1.03	1.20	1.82	.94	1.00

¹ New firms are those which started operations in the 1946-48 period. Ratios are derived from year-end inventories and average monthly sales. Ratios for new firms are medians and exclude firms without employees. The all-industry totals for new firms are based on medians weighted by total 1948 sales in each industry.

² Excludes machinery and transportation equipment.

³ Insufficient sample.

Source: U. S. Department of Commerce, Office of Business Economics.

Table 6.—New and Established Manufacturing Firms: Stock-Sales Ratios, 1947 and 1948, by Industry and Size of Firm¹

Industry	1947				1948			
	New firms		Established firms		New firms		Established firms	
	Small	Large	Medium and small	Large	Small	Large	Medium and small	Large
All industries.....	1.32	1.03	1.40	2.83	1.22	0.92	1.81	2.85
Food and kindred products.....	1.03	1.18	1.00	1.50	1.49	.61	.90	1.84
Textile-mill products.....	2.92	1.20	2.10	1.72	.90	.04	2.27	1.73
Apparel and related products.....	.48	.76	1.21	1.05	.55	.00	1.22	1.50
Lumber and timber basic products.....	1.18	.96	.77	1.40	1.24	1.10	.92	1.76
Furniture and finished lumber products.....	1.00	1.30	1.45	2.38	1.13	1.25	1.70	2.32
Metals and metal fabricating.....	1.33	.78	1.74	1.90	1.19	.84	1.64	1.85
Machinery.....	1.82	1.12	2.12	3.48	1.78	1.45	3.15	3.32
Transportation equipment.....	1.00	1.64	2.15	2.20	1.67	1.00	1.60	2.04
All other.....	1.14	1.03	1.64	1.96	1.14	.90	1.57	2.05

¹ New firms are those which started operations in the 1946-48 period. Ratios are derived from year-end inventories and average monthly sales. Ratios for new firms are medians and exclude firms without employees. The all-industry totals for new firms are based on medians weighted by total 1948 sales in each industry. Small new firms are those with sales under \$100,000. The asset-size classification of established firms varies according to industry. In general, the medium and small companies are those with assets under \$10 million.

² Excludes machinery and transportation equipment.

Source: U. S. Department of Commerce, Office of Business Economics.

Table 7.—New Manufacturing Firms: Percentage Change in Plant and Equipment Account, 1946 to 1947 and 1947 to 1948, by Industry and Sales Size¹

Industry	1946 to 1947			1947 to 1948		
	All	Small	Large	All	Small	Large
All industries.....	24	24	38	32	12	14
Food and kindred products.....	22	40	21	0	7	2
Textile-mill products.....	13	21	9	13	23	12
Apparel and related products.....	11	0	24	12	33	12
Lumber and timber basic products.....	27	11	28	17	32	10
Furniture and finished lumber products.....	16	17	15	20	4	34
Stone, clay, and glass products.....	26	(?)	(?)	8	(?)	(?)
Metals and metal fabricating.....	25	11	32	18	24	17
Machinery.....	26	25	27	18	8	41
Transportation equipment.....	35	(?)	(?)	0	0	12
All other.....	23	17	.5	11	11	12

¹ New firms are those which started operations in 1946 and 1947. Data are medians and exclude firms without employees. The all-industry totals are based on medians weighted by total 1948 sales in each industry. Changes are based on end-of-year data. Small firms are those with sales under \$100,000 classified according to sales in the earlier year of comparison.

² Insufficient sample.

³ Excludes machinery and transportation equipment.

Source: U. S. Department of Commerce, Office of Business Economics.

